

## SEMILOTUS MODESTUS, sp. nov.

B. iii. D. 4/20. P. 15. V. 9. A. 3/6. C. 19. L. 1. 32-34.  
L. tr.  $7\frac{1}{2}/7\frac{1}{2}$ .

Length of head  $\frac{2}{9}$ , of caudal  $\frac{2}{9}$ , height of body nearly  $\frac{1}{3}$  of the total length.

*Eyes.* Diameter  $\frac{1}{3}$  of length of head, 1 diameter from end of snout,  $1\frac{1}{2}$  diameter apart.

Snout broad, obtuse, with several open pores on either side. Mouth transverse, inferior. The posterior extremity of the maxilla extends to beneath the middle of the orbit. No horny substance on the jaws. Lower jaw not covered by lip. A knob at the symphysis. Slight motion between the maxillary and intermaxillary bones. No barbels.

*Teeth* pharyngeal, 4, 3, 2/2, 3, 4.

*Colours.* Silvery, darkest in the upper half of the body. Ventrals and anal tipped with orange.

*Hab.* Hill-ranges of Akyab, whence Col. Stevenson procured for me two specimens, of  $4\frac{1}{2}$  and  $5\frac{1}{2}$  inches respectively in length.

*Remarks.*—This species appears intermediate between the genera *Semiplotus* and *Cyprinion*; for it nearly agrees with the former in the slight motion of the upper jaw, absence of barbels, &c., whilst it likewise resembles the latter in having a serrated dorsal spine, although it has no horny edge to the lips or barbels. However, those two genera, with this intermediate species, appear to pass so naturally one into the other that I would suggest they should only be regarded as subgenera.

4. Monograph of the Genus *Idiops*, including Descriptions of several Species new to Science. By the Rev. O. P. CAMBRIDGE.

(Plate VIII.\*)

In publishing descriptions of new species of a little-known genus, it seemed a fit opportunity to incorporate with them the substance of what has already been made known upon the subject by Continental arachnologists; the present paper will therefore comprise the characters of the genus, and of the only two species of it hitherto known, in addition to the descriptions of the new species.

The genus *Idiops* was first characterized (in 1830) by M. Perty (Del. An. Art. Bras. p. 197); but it appears to have been overlooked by Baron Walckenaer, who seems to have hastily concluded M. Perty's spider to have been a species of the genus *Sphasus* (see Walck. Ins. Apt. tom. i. p. 379, Paris, 1837). It is surprising that Walckenaer should not have recognized in M. Perty's figures and lucid description a species of a new and well-marked genus of the family

\* For description of this Plate, see the end of the supplementary paper on the same subject, below p. 157.—Ed.

*Mygalides*. Subsequently M. Guérin-Méneville (without any reference at all to the genus established by M. Perty) founded the genus *Acanthodon* upon another Spider, undoubtedly congeneric with that upon which the genus *Idiops* had been previously established (see 'Arachnides du Voyage de la Favorite,' and 'Revue Zoologique,' 1838, p. 10). This genus, *Acanthodon*, was afterwards, in the Supplement to his history 'Des Aranéides,' included in 'Ins. Apt.' tom. ii. p. 234, by Baron Walckenaer, who also seems to have overlooked its identity with *Idiops*. Since that time nothing appears to have been published upon it. The present occasion, therefore, seems a fit one for the re-establishment of M. Perty's genus, and the rectification of the erroneous reference to his species by Walckenaer in the work above quoted (Ins. Apt. tom. i. p. 379, where the specific name of Perty's Spider is also erroneously given as *Idiops aculeatus*, whereas the name given it in Del. An. Art. Bras. is *Idiops fuscus*).

Of the species\* which are now included in the genus *Idiops*, three (*Idiops fuscus* (Perty), *I. kochii*, n. sp., *I. petiti* (Guérin)), are from two widely separated localities in South America (Brazil and the Amazons); the fourth (*I. sigillatus*, n. sp.) is from the Swan River, West Australia, and in many respects a most remarkable species; the fifth is from Beirût in Syria.

#### Fam. MYGALIDES.

##### Gen. IDIOPS.

*Idiops*, Perty, Del. Anim. Artic. Bras. p. 197, 1830-34.

*Acanthodon*, Guérin, Arachnides du Voyage de la Favorite, cl. viii. pl. 16. figs. 1-8; Revue Zool. 1838, p. 10; Walck. Ins. Apt. tom. ii. p. 234.

*Characters of the Genus*.—*Cephalothorax* large, oval, in some species uniformly convex above; in others the caput is more or less elevated, and the sides as well as the thoracic portion depressed.

*Eyes* unequal in size and disposed in three transverse rows, 2, 2, and 4; this last row, the hindmost, is much the longest, curved, and not far behind the second, or intermediate row; while the foremost one is placed at a considerable distance in front, and only just above the insertion of the falces; they may also be described (see Guérin, *l. c. sup.*) as disposed in two groups,—the *first* placed on the anterior margin of the cephalothorax, and composed of two eyes near to each other; the *second* considerably behind and forming a longish narrow transverse oval figure, composed of six eyes.

*Falces* strong, prominent, and generally armed at their extremities on the upperside with a group of short strong spines.

*Maxillæ* cylindrical, divergent, almost entirely destitute of any prominence on their inner extremities, so that (like many others of the *Magalides*) the palpus appears to spring from the very extremity of the maxilla.

\* *Vide* supplementary notice, in which other new species are described, *postea*, p. 152.

*Labium* small, oblong, rather narrower at the apex than at the base.

*Legs* strong, variously armed with spines, and terminating with three claws, the two superior ones of which are sometimes pectinated.

*Palpi* long, strong, and armed with spines; in the female sex pediform, and ending with a simple curved claw; in the males terminating with palpal organs, which in general structure resemble closely those of the male sex in all known species of the *Mygalides*, viz. a corneous bulb slightly attached to the underside of the digital joint, and prolonged into a variously formed, but generally simple, spinous projection.

M. Guérin remarks that nothing is known of the habits of his species *I. petitii*; the striking similarity, however, in one portion of its structure (viz. the strong and peculiar spines on the palpi, legs, and falces) seemed to indicate a *habitus* similar to that of *Cteniza*, Latr., *Atypus* (Latr.), and *Actinopus* (Perty), *i. e.* the formation of a tubular silken domicile in a hole dug out of the earth, and closed probably by a hinged lid: this habit has been verified in respect to one of the new species described below (*I. syriacus*); and thus M. Guérin's concluding observation, "Elle doit être fousseuse comme certaines *Mygales* et comme les *Atypes*," has received a striking confirmation in fact.

#### 1. IDIOPS FUSCUS.

*Idiops fuscus* (*Filaria mygaloides*), Perty, Del. An. Art. Bras. p. 197, pl. 39. f. 5.

*Sphasus idiops*, Walck. Ins. Apt. tom. i. p. 379.

Male adult, length  $4\frac{1}{2}$  lines.

*Cephalothorax* suboval, but slightly convex above.

*Eyes* eight, unequal in size; two small ones situate in front, then two of larger size, and behind these four small ones, placed in a curved line.

*Legs* long, rather strong, attenuate towards the tarsi; relative length 1, 4, 2, 3.

*Palpi* almost as long as the cephalothorax and abdomen, first joint forming the maxillæ, last joint in the male inflated and unguiculate.

*Abdomen* oval; sternum small, flat, subcircular. The whole spider is of a dusky black colour; the coxæ of the legs testaceous; tarsi red. At first sight similar to "*Actinopus tarsalis*," but in structure and position of the eyes wholly dissimilar; on the underside the colour is testaceous brown.

*Hab.* Brazil.

In the above description, M. Perty omits a strong specific character, well shown in the figure, viz. the strong and tumid radial joints of the palpi.

#### 2. IDIOPS ΚΟΧΗΙ, n. sp. (Plate VIII. fig. 1.)

Male adult, length  $7\frac{1}{2}$  lines.

*Cephalothorax* large, oval, transversely truncate before, and moderately convex above; the lateral and posterior margins of the caput are

confluent with the thoracic region; the normal furrows and indentations are strongly marked, the median depression indicating the junction of the caput and thorax being very deep and curved. The colour of the cephalothorax (as also of the whole Spider except the abdomen) is a deep black brown, tinged with reddish, the abdomen being of a dull yellow-brown, blackened by numerous longish bristly black hairs, mingled with the shorter ones of a different colour; the cephalothorax is furnished with bristly black hairs, which chiefly follow the directions of the normal indentations.

*Eyes* eight, disposed in three transverse rows, seated on a slightly elevated and somewhat circular area: the two front rows consist each of two eyes; the third or posterior row consists of the four smallest eyes, and is much the longest and curved, the curve being directed backwards; the eyes of this third row may be described as in two pairs, those of each pair being contiguous to each other, and forming the extremity of the row; the eyes of the two front rows form an oblong rectangular figure, whose transverse width is the shortest; the eyes of the first row are close above the fore margin of the caput, and are the largest of the eight, but the line formed by them is only equal in length to that formed by the eyes of the *second* row, which last are seated on whitish tubercles and, being smaller than those of the front row, are therefore separated by a wider interval. Several strong black bristles spring up behind the eyes and arch forwards over them; and another, issuing from the centre of the area formed by the two front rows, arches backwards in a direction contrary to those before mentioned.

*Legs* long and strong, the femora of those of the third pair being specially stout and tumid; they are furnished with blackish bristly hairs and a few spines; their relative length is 4, 1, 2, 3, the length of those of the fourth pair being 18 lines, and of those of the third pair 12 lines; beneath the two superior terminal claws of the tarsi is a compact brush, or small scopula of hairs, which prevented its being ascertained whether a third (or inferior) claw was present or no; the superior claws appeared to be destitute of pectinations; it was not, however, easy to observe this with accuracy; the tibiæ of the first pair of legs are furnished with several spines, of which one is much stronger than the rest, and issues from a small corneous prominence of the tibial joint.

*Palpi* long and strong, similar in colour and armature to the legs; cubital joint rather clavate, humeral strong and curved; radial longer than the cubital, and rather densely furnished beneath with long bristly hairs; digital joint narrow, oblong, a little constricted about its middle part; from beneath the hinder extremity of this joint spring the palpal organs, which are small and consist of a nearly circular red-brown corneous bulb prolonged into a sort of beak, directed rather outwards, and terminating in a filiform slightly curved point.

*Falces* moderately strong and prominent, furnished with hairs, bristles, and a cluster of short black spines near their inner extremities.

*Maxilla* long, cylindrical, divergent.

The *labium* was almost concealed; but it was apparently very small, though similar in form to that of *Idiops fuscus*.

*Sternum* somewhat oval in form, but much broader behind than before.

*Abdomen* small, oval, very convex above, hairy, and of a dull yellow-brown colour, rendered blackish above by numerous bristly black hairs longer than the rest; the plates of the spiracles (four in number) are of a paler colour than the rest of the abdomen; the spinners are also four in number; those of the superior pair being much the longest and strongest, and biarticulate.

An adult male of this Spider was received through Mr. Janson from Pebas (Amazons, South America); it seems to be nearly allied to *Idiops fuscus* (Perty), but is much larger, and differs both in the relative size and disposition of the eyes, as well as in the structure of the palpi. In connecting this species with the name of Dr. Ludwig Koch of Nürnberg, I desire to pay a slight tribute of respect to one of the keenest and ablest of living arachnologists.

### 3. IDIOPS SIGILLATUS, n. sp. (Plate VIII. fig. 2.)

Male adult, length 9 lines.

*Cephalothorax* broad, nearly circular, and depressed; caput short, as if truncated before, and its junction with the thoracic region marked by a deep, transverse, and somewhat curved indentation; the other normal furrows and indentations are also pretty strongly marked; the colour of the cephalothorax is a dark yellowish brown, and it is sparingly clothed with yellow-grey adpressed hairs, as well as some short black spiny bristles; a number of strongish black spines and spiny bristles also form a sort of border round its lateral margins.

*Eyes* eight, placed on a black tubercular eminence of no great height, on the fore part of the caput; they are disposed in three transverse rows, 2, 2, and 4; those of the foremost row are the largest of the eight, near together, and situated immediately above the insertion of the falces; those of the second row are much smaller, and at some distance behind the former, with which they form an oblong rectangular figure, and occupy the summit of the tubercular eminence; not far behind these the four remaining eyes form the third row, which is much the longest and slightly curved (the curve directed backwards); the lateral eyes of this row are large, but rather less in size than those of the first row; the two central eyes are small (the smallest of the eight), and are further from each other than each is from the lateral on its side. From the centre of the rectangle formed by the eyes of the first and second rows, one or two strong, spiny, black bristles rise almost perpendicularly, curving a little backwards; two other bristles of the same kind, but shorter, spring up in a transverse line between the central eyes of the third row, and have their points directed forwards.

*Legs* moderately long, strong; relative length 4, 1, 2, 3; they are of a reddish yellow-brown colour, and are furnished with hairs, bristles, and black spines of varied length and strength: the tibiæ

of the first pair have two strong, black, tubercular, corneous prominences near their extremities on the inner side; the hinder one of these is by far the longest and strongest; both are furnished with bristles, and at their extremities are some short, strong, blunt, black spines. Each tarsus ends with three claws; the two upper ones are conspicuous, curved, and pectinated; the lower one is small, sharply bent downwards, and not easy to be seen.

*Palpi* long, strong, similar to the legs in colour, and remarkable in their structure and armature; the *cubital* joints are short, and larger at their fore than at their hinder extremities; on their outer sides, rather underneath, is a sort of longitudinal irregular furrow or suture of a pale colour, with a slight prominence near the middle; the *radial* joints are more than double the length of the cubitals, curved, very strong, and tumid, especially towards their hinder extremities; about the middle of their outer sides is a strong, prominent, tubercular projection, obtuse at its extremity, which (together with the underside) is furnished with very short, strong, blunt, black spines; about halfway between this projection and the extremity of the joint is another, prominent, slender, and cylindrical, of a paler colour than the other, and with a few, very short, tuberculiform, black spines near its extremity; the *digital* joint is rather shorter than the cubital, of an oblong form, very slightly concave beneath, and with its anterior extremity strongly emarginate, or rather produced on either side, mostly so on the inner one. The palpi are furnished with hairs, bristles, and spines; a group of long and strong bristly hairs occupies the underside of the radial joint near its hinder extremity; and the fore extremity of the digital joint is armed with some strong black spines. The palpal organs consist of a long, strong, and tortuous corneous process of a red-brown colour, mixed with whitish; this process is somewhat bulbiform near its base, and terminates with a small, bluntish continuation; in a state of rest this organ extends backwards nearly to the hinder extremity of the radial joint.

*Falces* moderately strong, prominent, of a red-brown colour, hairy, and armed with a small group of short strong spines near their extremities on the upperside.

*Maxillæ* strong, cylindrical, divergent, and having the palpi issuing from their extremities; they are thickly fringed on their inner sides with reddish-yellow hairs.

*Labium* very small, short, rather broader at its base than at its apex, which is rounded.

*Sternum* large, oblong-oval, much narrower before than behind; this part (with the labium and maxillæ) is similar to the legs in colour; the sternum is also furnished with strong, prominent, bristly hairs, and four smooth, oval, reddish patches or spots form a curved transverse row across its centre, the curve directed backwards.

*Abdomen* broad-oval, narrower before than behind; it projects over the base of the cephalothorax, is tolerably convex above, round, and abruptly terminated at its hinder extremity; it is of a deep dusky-brown colour, its sides and upper part strongly rugulose, the

wrinkles being sinuous, and with a longitudinal direction; each wrinkle is armed with a single and more or less complete row of short, strong, prominent, black spines; the hinder extremity of the abdomen has four largish, round, bare, black, slightly impressed patches, like seals; the two upper ones are the largest, and are wider apart than the two lower ones; the four form very nearly a square. The spinners (four in number) are short; the superior ones being the longest, strongest, and apparently biarticulate; the four spiracles are connected with conspicuous disks or plates of a reddish-brown colour, mixed with yellowish.

An adult male of this very distinct and remarkable Spider was received through Mr. S. Stevens, from the Swan River, West Australia, in 1864.

#### 4. IDIOPS PETITII.

*Acanthodon petitii*\*, (Guérin-Méneville) Voyage de la Favorite, cl. viii. pl. 16. figs. 1-8; Walck. Ins. Apt. tome ii. p. 234.

Female adult, length 14 lines.

*Cephalothorax* elongate-oval, contracted and elevated before, flattened on the sides and behind.

*Eyes* eight, disposed in two separate groups; the first, situated on the anterior margin of cephalothorax, is composed of two large eyes very near to each other, and placed on a tolerably strong tubercle; the second group is much further back, placed upon a strongish eminence, and forming a very narrow, transverse, oval figure; this group consists of six eyes, the two hindmost ones being rather the smallest.

*Palpi* long, strong, and pediform, almost as strong as the legs, and armed beneath with short, strong spines, forming a sort of rake (*rateau*).

*Legs* longish and strong; relative length 4, 1, 2, 3; those of the first two pairs armed beneath the two last joints with short, strong spines similar to those beneath the palpi; each tarsus ends with three claws, the two superior ones much curved, and armed beneath, towards their base, with a strong tooth; the inferior claw is much smaller than the superior ones.

*Falces* prominent, and armed in front with a group of strong spines.

*Maxillæ* and *labium* similar in form to those of *Idiops fuscus*.

*Abdomen* oval, hairy, of a pale dull brown colour, with some largish yellow spots beneath, near the branchial openings; the colour of the *cephalothorax*, *legs*, and *falces* is a lively chestnut-brown, shining, and as if varnished. Spinners four in number and unequal in size. Branchial openings four in number, and placed in the usual position beneath the fore part of the abdomen.

*Hab.* Brazil.

#### 5. IDIOPS SYRIACUS, n. sp. (Plate VIII. fig. 3.)

Female immature, length  $3\frac{1}{2}$  lines.

The general colour of this species is yellow-brown, the cephalo-

\* Named after Dr. M. Petit de la Saussaie, by whom it was discovered and presented to M. Guérin.

thorax and falces being rather darker than the legs and palpi, and the abdomen having a duller whitey-brown hue; the hinder part of the caput is elevated or protuberant, the thoracic portion and sides being depressed; the eyes are similarly placed to those of the foregoing species; those of the two foremost rows form an oblong figure, whose width is considerably less than its length, and its fore extremity a little wider than its hinder one; the two central eyes of the hinder row are much further apart from each other than each is from the lateral on its side; the eyes of this row are of a bright pearly-white lustre, and larger than the rest (which are dark-coloured), the external ones being apparently the largest of the eight. From the centre of the long-oval figure formed by the six hinder eyes springs a long, tolerably strong, erect, black bristle, and from the highest part of the caput (behind the eyes) spring two other similar bristles directed forwards; the *legs* are short, strong, and taper rapidly to their extremities; those of the third pair are rather the strongest; they are armed with hairs, bristles, and strong spines, the latter being especially beneath those of the first and second pairs; their relative length is 4, 3, 1, 2, thus differing in this respect from all the foregoing species; but there seemed very little, if any, difference in length between those of the first and second pairs. Each tarsus ends with three claws, the inferior one being very small, the superior pair having apparently but *one* strong tooth beneath, like those of *Idiops petiti*; the *falces* are strong, prominent, and armed with a group of powerful spines at their extremities on the uppersides. The *maxillæ* are furnished with bristles and short spine-like prominences, of which last there are also several at the apex of the labium. The *abdomen* is rather large, oval, and convex above, furnished sparingly with hairs, and of a whitish yellow-brown colour. Spinners four in number; the superior ones stout, biarticulate, but not very long; the inferior ones very small.

This Spider was dug out of a bank close to Beirût, by myself, in May 1864; it was in a tubular web spun in a cylindrical hole formed in the earth, and closed at the entrance, on the surface of the bank, by a hinged lid, similar to that of some other species of the *Mygalides*.

##### 5. Descriptions of Three new Species of Marine Shells from the Australian Coast. By JOHN BRAZIER, C.M.Z.S.

###### VOLUTA (AULICA) WISEMANI, n. sp.

The shell differs in a great many respects from *V. pulchra*, Sow. The first three whorls, forming the apex, are minutely granular; fourth, tubercle slightly raised, straight and very sharp-pointed, orange-coloured blotches at the suture; fifth with the tubercles raised, sharp-pointed, tipped with orange, fine orange-coloured blotches at the suture, tubercles white between; basal whorl with five prominent tubercles at the angle, sharp-pointed, tipped with orange, be-